THE ANNIVERSARY MEETING OF THE ROYAL SOCIETY.

ON Saturday last, St. Andrew's Day, the Royal Society held its anniversary meeting. The President read the anniversary address, a copy of which has not yet reached us. The medals were then presented as follows: the Copley Medal to the Rev. Dr. Salmon (received by Sir R. S. Ball); the Davy Medal to Dr. Perkin; a Royal Medal to Dr. Gaskell; and a Royal Medal to Prof. Thorpe. The Society next proceeded to elect the Officers and Council for the ensuing year. The selected names we have already published.

In the evening the Fellows and their friends dined together at the Whitehall Rooms, Hôtel Métropole, the President in the chair. Over two hundred Fellows and guests were present.

The toast of "The Royal Society" was proposed by the Speaker of the House of Commons. He said:—Sir George Stokes and Gentlemen,—If I thought the audience whom I have the honour to address, took the same view as I do of my own want of qualifications for proposing this toast, I think I should at once sit down; but it is because I trust to your generous forbearance for a few moments that I ask you to allow me to propose a toast which needs no advocacy of mine, the toast of the Royal Society. I suppose the reason why your President has selected me to propose this toast is owing to the fact of the official position that I hold in the House of Commons, and also partly owing to the fact that the holder of one chair has been willing to pay a compliment to the holder of another. There are very few members of the House of Commons, I believe, who are entitled to put three letters to their name to indicate membership of your Society. I omit those Privy Councillors who, I believe, by virtue of their office, have a claim to be looked upon as members of this Society. I am speaking now of the strictly scientific men, and I believe I could number the strictly scientific members of the House of Commons who are members of the Royal Society on the fingers of one hand. But I may say that those members of the House of Commons make up for their numerical weakness by the qualities they display, the high place they have filled, by their pre-eminence in debate, and by the records they have left upon the Statute-book of the country. It may be said that five members is a small infusion to leaven the whole lump of the House of Commons, and I am very conscious that scientific gentlemen may regard at times with a feeling of displeasure, if not with a more contemptuous feeling, some of our modes of procedure and some of our habits of thought in the House of Commons. You may think that we do not display that calmness of judgment, that patient investigation of detail, which characterize the scientific mind. You may think that we import into our discussions too much of a very unscientific heat, and that we are diverted from our objects by a great many cross-currents of prejudice and of party. However that may be, Sir, I believe that the object that you and we have in view is the same. The great historian Hume, speaking of the inception of this Society, said that it was the part of scientific men to lift the veil from the mysteries of Nature. It is a humbler function which the House of Commons has to discharge—to solve the great social and political questions of the day. But the object of both is the same, the attainment of truth, and, by whatever means we can attain that object, that object ought to be the main purpose of our lives. I believe I am right in saying this Society owes its inception and its origin to the University of Oxford. In these later days it owes a debt to the great sister University, in the fact that that University has sent to the chair of your Society a gentleman who combines in his own person, not for the first time, the functions of a Professor, of a member of the University of Cambridge, and of President of this great scientific body. Sir, I am very loth, indeed, to trespass any longer upon your time. I have no claim whatever to do so. I will only very humbly express my views. My own individual opinion is worthless and insignificant; but possibly invested for a few moments with a representative character, and speaking for the House of Commons, and that great public who are behind it, I would say that the public of the present day regard not only with that vague astonishment, which they might well do, the great achievements of science, but they look with admiration upon the great men who have illustrated the history of your Society, and they see in that very lengthened list one of the greatest tributes to the greatness of their country. I do, Sir, very much feel the imperfection with which I have addressed to you these few words. But if I have said that the scientific mind is needed in the House of Commons, I will also say this, that the House of Commons has in these days to face not only great political problems, but some of those questions which are surging up and coming ever more to the front, I mean the great social problems—problems connected with the aggregation of vast multitudes in towns, problems connected with the question how to make the lot of the poor happier, how to make it easier for men to support a life of continuous labour, how, in short, to sweeten life, and to make that toil which falls upon us all lighter to the poor with some ray of hope, and easier with some degree of comfort and convenience. But it is to science that the public must look for aid in solving these questions. You have done much already, but you will add a still nobler title to the admiration of the world if you deal with these subjects, as I am sure you will, in such a manner as to make it impossible for the practical politician to separate himself from the nobler follower of science. It is with a very deep sense of the value of this Society and of the feeling which is abroad with regard to it, that I beg to propose to you—and I thank you most cordially for the toleration with which you have listened to my few remarks—the toast of "The Royal Society."

In response, the President said:—My Lords and Gentlemen,—On behalf of the Society which I have the honour to represent on this occasion, I beg to return our thanks for the honour you have done us in drinking the toast. This Society is by far the oldest scientific Society in the Kingdom, but it cannot for a moment compare in antiquity with that other institution over which the Speaker presides. Our aims are of course naturally very different, and our modes of procedure are different too. We have, as the other House has, discussions in our body, but our discussions are usually carried on with calmness, and we endeavour—those of us who pursue different branches of science—to assist one another. I do not think that that is always the case in the other Society. Perhaps there is nowadays at times something akin to obstruction rather than assistance. However, in order that truth may be elicited, it is necessary that there should be contact between mind and mind, and contact sometimes produces severance. It is better that that contact should take place in order that we should understand one another. Our Society does not exactly deal with social problems such as the Speaker has alluded to, still there are many cases in which questions of great interest to the bulk of the population are capable of being illuminated by scientific researches. To take one remarkable example which has been brought prominently before us. Let us consider the investigations, so important in their results, so purely scientific in inception, which have been carried on by M. Pasteur in France. As the result of a long series of scientific experiments, he has now succeeded in protecting in a great majority of instances those persons who have been so unfortunate as to have been bitten by rabid animals from that terrible disease which ordinarily follows in the wake. His merits in that respect have been duly acknowledged in this country. We know that recently, within the course of the present year, the Lord Mayor called a meeting at the Mansion House to make some recognition on the part of this country of the great debt which we owe to M. Pasteur for those researches. I mention that as one, but it is only one, of many instances in which great social advantages have accrued from purely scientific investigation. I trust that harmony will long continue to exist between the Society which I have the honour to represent, and that which the Speaker represents. I can say this much—that, whatever Government may have been in power, there have frequently been applications made to the Royal Society for advice on some purely scientific questions on which the Cabinet of the day did not feel that they had the requisite knowledge to pronounce an opinion; and this I must say, that the Royal Society has freely given the best of their knowledge on these subjects to the Government of the day, without any consideration of what the politics of that Government might be. I trust that this will ever continue to be the case, and that the Royal Society may go on in a peaceful way doing the duties which belong to it, and that the country may reap the benefits resulting therefrom.

Responding for the toast of "The Medallists," proposed by the President, Prof. Thorpe said:—Mr. President, my Lords, and Gentlemen,—We must all regret, I am sure, that Dr. Salmon's duties as Provost of Trinity College, Dublin, should have prevented him from being present amongst us to-day to receive the Copley Medal in person and to respond to the toas

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which has just been so cordially drunk by you. For reasons which my brother medallists at least can fully appreciate, no one feels that regret more keenly than I do. I may confess that it was with a feeling akin to astonishment that I received through a good-natured friend the intimation that the Council of the Society had seen fit to honour such chemical work as I had been able to do by the signal recommendation of the award of a Royal Medal; but that feeling culminated into something like consternation when you, Sir, informed me of your wish that I should reply, in the absence of the Copley Medallist, to the toast with which you have connected my name; and I began to realize the full force of the truth that there are occasions when it is more blessed to give than to receive. Dr. Salmon's absence, however, enables me to attempt to give expression to the feeling of satisfaction and pleasure with which, I am informed, the mathematical world regards this year's award of the Copley Medal. The worker in the field of pure mathematics appeals for recognition to a very select few; his work is, indeed, *caviare* to the general; his are not the triumphs which appeal to the popular fancy or which strike the popular imagination. If he labours for fame, he must be content to wait with the certain knowledge that, if his work be good and true, it will at length meet with the recognition it merits from a tribunal which is unmoved by prejudice and is insensible to the forces of fashion or faction. For nearly half a century Dr. Salmon has so worked, and to-day he receives his reward at the hands of the highest scientific tribunal in the world by the award to him of the most precious gift which it is in the power of that tribunal to bestow. The other medallists, Dr. Gaskell and Dr. Perkin, are happily with us to-night to receive the congratulations of their fellow-workers in science, and to be witnesses of the cordiality with which their health has been drunk by you. But I cannot forego the opportunity of saying also, in their case, how entirely your awards have been appreciated by the great body of scientific opinion, both within and without the Royal Society. To be praised by men who are themselves praised is, we all know, the very highest form of approbation that a man can enjoy, and such, to my knowledge, is the happy lot of the gentlemen whom you have been pleased to honour to-night. It is, however, one of the penalties to a man who is in the position in which I now find myself, and who does not pretend to be an Admirable Crichton, that he is unable from his own knowledge, or rather from the imperfection of it, to do adequate justice to the claims which such men have upon your regard. Dr. Gaskell's work is so entirely outside my own province that it would be in the highest degree presumptuous on my part to offer you any expression of my own opinion as to its merits. Of my colleague and fellow-worker, Dr. Perkin, to whom your Council has awarded the Davy Medal, I trust I may be allowed to speak with greater freedom, because in his case I am more or less upon my own ground, and am talking about matters which are within my own knowledge. It is exactly ten years since that Dr. Perkin was placed by your Council in the position in which I find myself to-day. In awarding him a Royal Medal on that occasion, our former President, the late Mr. Spottiswoode, took the opportunity to say that Dr. Perkin had then been, during more than twenty years, one of the most industrious and successful workers in organic chemistry, and he added that it was seldom that an investigator had extended his researches over so wide a range as was the case with Dr. Perkin, whose work had always commanded the admiration of chemists for its accuracy and completeness, and for the originality of its conception. There is not a chemist here present who will not cordially re-echo these words. Dr. Perkin is, no doubt, known to you all as the originator of one of the most important branches of modern chemical industry—that of the manufacture of colouring matters from coal-tar derivatives—an industry which has acquired almost colossal proportions, and which has effected a complete revolution in the tinctorial arts. I say it with bated breath to you, Sir, as the member for the University of Cambridge, but we all remember the famous saying of Swift as to the value to mankind of the whole race of politicians put together when compared with that man who has made two blades of grass to grow where only one blade grew before. I do not know that Dr. Perkin has achieved that feat, but I claim for him that he has done even more than this, for he has succeeded in demolishing an entire agricultural industry. By his researches he has shown us that we have practically at our own doors, or at least in our own coal-pits, all the richness and beauty of colour which were formerly only to be obtained from the madder fields of Avignon and the Levant. A beneficent fortune, we are glad to know, has not been unmindful of Dr. Perkin's success in thus enriching the world, and she has endowed him with a share of that material benefit which his skill and genius as an investigator has conferred upon us all. That competency, and the well-earned leisure which has sprung from it, Dr. Perkin has dedicated, with a directness and singleness of purpose which merits our warmest appreciation, to the service of science. Nothing, I think, more clearly indicates the truly scientific character of his mind, and his love of science for its own sake, than that he should, whilst comparatively a young man, have turned aside from the pursuit of the great wealth which all his friends thought would ultimately be within his grasp in order that he might follow, undisturbed, his innate desire for pure scientific research. The ten years which have elapsed since our late President alluded in such characteristically graceful terms to Dr. Perkin's labours in the domains of pure and applied chemistry have been rich in scientific achievement, and they have now culminated in that laborious series of researches on one of the most abstruse points of physical chemistry which has been so fittingly rewarded by you by the gift of the Davy medal. I have already alluded to the feeling with which I received the intimation from my good-natured friend that the Council of the Royal Society had been pleased to confer upon me a distinction which is my sole excuse for trespassing upon your indulgence to-night. I will only again refer to that feeling to say that in deference to the express wish of my distinguished friend I am doing my best to get over it. I am bound to add that my friend has himself supplied a reason which in some measure serves to explain the circumstance. Among the pieces of work which the Council have thought worthy of notice was a redetermination of the atomic weight of gold made in conjunction with Mr. Arthur Laurie. I shall not trouble you with the reasons which made that redetermination seem specially desirable, but that it was desirable will be evident from the fact that no fewer than three independent investigations were in progress at the same time in Germany, England, and America. All the results have now been published, and they are, I think, in very fair accord. But my distinguished friend, whose good-nature is only equalled by his candour, has reminded me that there is a discrepancy of a remote decimal place or so in our several values for the atomic weight, and, in default of any other probable hypothesis, it had occurred to him that the real motive of the Council in making the award was to give me both the hint and the opportunity to clear up the disparity. The Gold Medal, he pointed out, would afford an ample supply of the material on which to base a new determination, and the Silver Medal would come in handy for the preparation of the necessary standard solutions. This seemed to me to put the whole matter in a new light, but, on turning to the official intimation of the award forwarded to me by Dr. Foster, and then to a friendly letter which the President has been so good as to send me, I have not gathered that this intention was ever in the mind of the Council, and until I receive a further official intimation that such was the case, I mean to do my best to preserve intact the counterfeit presentment of the gracious lady which adorns the medals. There is just one other matter connected with my work to which, with your permission, I would allude. Reference was made in the terms of the award to a series of researches on fluorine compounds on which I have been engaged for some years past. I wish to mention, and I do so with a very special pleasure, that much of this work has been carried out in co-operation with some of my senior students at the Normal School of Science. This work has been at all times difficult, often disagreeable, and occasionally dangerous, and I am glad to seize this opportunity of testifying to the zeal, assiduity, and, I may add, courage, which my *collaborateurs* have shown in the progress of the investigations. It is a further satisfaction to me to add that the qualities thus evoked and the training thus acquired have been of material benefit to them in their professional advancement, and I can wish them no greater good fortune than that it may be their lot in time to come to occupy my place here, and to be received by you with that indulgence which you have extended to me to-night.

A NEW METHOD OF PREPARING FLUORINE

A NEW method of preparing fluorine has been discovered by M. Moissan. This discovery is the outcome of the success which has attended M. Moissan's efforts to prepare anhydrous fluoride-

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